

CLAIMS

What is claimed is:

1. A vortex unit suitable for providing a desired environment for a semiconductor process, comprising:
 - a vortex tube having an air inlet for receiving compressed air, a first air exhaust for outputting an air stream having a temperature greater than the received compressed air, and a second air exhaust for outputting an air stream having a temperature lower than the received compressed air; and
 - a semiconductor processing device suitable for performing a semiconductor processing function, wherein the semiconductor processing device is connected to the second air exhaust of the vortex tube so that the semiconductor processing device receives a cooled air stream from the vortex tube, the cooled air stream providing an environment suitable for enabling the semiconductor processing device to perform the semiconductor processing function while being exposed to the desired environment.
2. The vortex unit as described in claim 1, wherein the environment is approximately 25 degrees Celsius.
3. The vortex unit as described in claim 1, wherein the semiconductor processing device includes a testing device for testing operation of a semiconductor.
4. The vortex unit as described in claim 3, wherein the semiconductor is a wafer.
5. The vortex unit as described in claim 1, further comprising a manifold disposed between the vortex tube and the semiconductor processing device, wherein the manifold is operably connected to the second air exhaust of the vortex tube, and

includes a plurality of tube for ducting air received by the manifold to more than one location on the semiconductor processing device.

6. The vortex unit as described in claim 1, wherein the cooled air stream is directed to a platen area of a prober of the semiconductor processing device.
7. The vortex unit as described in claim 1, wherein the cooled air stream is directed to a chuck top of a prober.
8. The vortex unit as described in claim 7, wherein a wafer to be tested by the prober is cooled by the cooled prober.
9. The vortex unit as described in claim 1, wherein the first air exhaust is ducted so as not to interfere with the semiconductor processing device.

10. A vortex unit suitable for providing a desired environment for a testing a semiconductor device, comprising:

a vortex tube having an air inlet for receiving compressed air, a first air exhaust for outputting an air stream having a temperature greater than the received compressed air, and a second air exhaust for outputting an air stream having a temperature lower than the received compressed air; and
a semiconductor testing device suitable for testing at least one function of a semiconductor, wherein the semiconductor testing device is connected to the second air exhaust of the vortex tube so that the semiconductor testing device receives a cooled air stream from the vortex tube, the cooled air stream cooling a semiconductor device to a desired testing temperature enabling the semiconductor testing device to test the at least one function of the semiconductor device at the desired temperature.

11. The vortex unit as described in claim 10, wherein the temperature is approximately 25 degrees Celsius.

12. The vortex unit as described in claim 10, wherein the semiconductor is a wafer.

13. The vortex unit as described in claim 10, further comprising a manifold disposed between the vortex tube and the semiconductor testing device, wherein the manifold is operably connected to the second air exhaust of the vortex tube, and includes a plurality of tube for ducting air received by the manifold to more than one location on the semiconductor testing device.

14. The vortex unit as described in claim 10, wherein the cooled air stream is directed to a platen area of a prober of the semiconductor testing device.

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15. The vortex unit as described in claim 10, wherein the cooled air stream is directed to a chuck top of a prober.
16. The vortex unit as described in claim 15, wherein a wafer to be tested by the prober is cooled by the cooled prober.

17. A vortex unit suitable for providing a desired environment for testing a semiconductor, comprising:

a means for providing a vortex having an air inlet for receiving compressed air, a first air exhaust for outputting an air stream having a temperature greater than the received compressed air, and a second air exhaust for outputting an air stream having a temperature lower than the received compressed air; and

a means for testing a semiconductor device, wherein the semiconductor testing means is connected to the second air exhaust of the vortex means so that the semiconductor testing means receives a cooled air stream from the vortex means, the cooled air stream providing an environment suitable for enabling the semiconductor testing means to perform a semiconductor testing function.

18. The vortex unit as described in claim 17, further comprising a manifold disposed between the vortex means and the semiconductor testing means, wherein the manifold is operably connected to the second air exhaust of the vortex means, and includes a plurality of tube for ducting air received by the manifold to more than one location on the semiconductor testing means.

19. The vortex unit as described in claim 17, wherein the cooled air stream is directed to a platen area of a means for probing of the semiconductor testing means.

20. The vortex unit as described in claim 17, wherein the cooled air stream is directed to a chuck top of the probing means.